An Address

ON

NATIONAL HEALTH POLICY: A CRITICAL
SURVEY*

BY

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On looking, for the first time in cold print, at the title of this discussion I had the feeling that it was rather too ambitious for what I had to contribute. I do not propose to conduct a critical survey of national health policy; I know, indeed, that I could not implement any such proposal. In national health policy in this discussion we are embracing the whole range of activities of which the State takes cognizance as affecting the health of the people. These activities include the work of the public health official, the medical practitioner—whether in public or private practice—the hospitals, and various specialized bodies engaged directly or indirectly in work which contributes to our knowledge of disease or to healthy living; they also include medical teaching and research. What I want to do is to gather up certain broad lines of criticism that have been emerging with increasing force in recent times, and to suggest to you that the case has been established for a detached and scientific review of our achievements, aims, and organization. My conviction is that until such a review has been carried out and certain fundamental questions answered we cannot hope to advance appreciably further either in organization or in results.

The improvements in our sanitary environment, the control of infections, the virtual wiping out of major plagues and pestilences, the reduced infantile mortality and general death rates, and our lengthened span of life have justly provided the theme of many paeans of triumph at annual conferences. We are entitled to claim that medical science has contributed much to these results, and I do not wish for a moment to depreciate them as real causes of satisfaction. But the undercurrent of dissatisfaction persists and grows stronger. How far do the falling death rates signify a definitely higher standard of physical fitness in the race? The public health services have to meet the attack that in some directions they are actually dysgenic in their operation. There is scarcely a medical administrator who is not ready to declare that our results fall short of what we had hoped for, and that, in many directions, they are meagre in proportion to the amount of effort expended in their achievement. The insurance medical service is criticized on the ground that, through deficiencies of scope and organization, the quality of its service lags behind the advance of medical science. There is a mass of invalidism that persists despite our knowledge of means to prevent it. There is much criticism of the medical curriculum. All these criticisms and dissatisfactions need not be taken at their face value; but their causes are various, they come at widely different angles, and it would be foolish complacency to ignore them. I do not propose to go over them in detail or in any definite order; I propose merely to show by some observations that there is substance behind them.

In Scotland we have recently secured highly suggestive data which give point to some of the criticisms of present health policy. The Department of Health for Scotland in 1930 instituted a morbidity statistics scheme. This scheme involves the routine collection of all medical

certificates of incapacity among the insured population. By the collation of the statistics of incapacity the Department is in a position to supplement the ordinary statistics of mortality with those of morbidity among the insured population according to age, sex, occupation, and locality. This appears to me to be an important development; it may be a landmark in the history of public health of the same kind, though not of the same significance, as the institution of the comprehensive system of vital statistics last century. The following quotation from a recent summary by Dr. McKinlay, Statistical Medical Officer of the Department, will illustrate:

"Comparison with the present statistics shows how grossly distorted a picture of the real sickness incidence is afforded by mortality or institutional morbidity figures. Conditions there are, in fact, almost the reverse of actual general practitioner experience. The principal causes of death take very inferior positions as causes of disability. Tuberculosis, malignant disease, heart disease, pneumonia, kidney disease—conditions all too frequent in mortality or in teaching hospital experience—account for a very minor proportion of the cases of disability, but, of course, in view of their higher average duration, for a somewhat higher, but still none too prominent, position in the time lost from sickness. On the other hand, we notice what heavy contributions, both in point of numbers and duration, are made by influenza, minor diseases of the upper respiratory tract (which include affections of the tonsils and adenoids, nasal septum, and related sinuses), accidents, the acute and chronic rheumatic conditions (lumbago, arthritis, synovitis, bursitis, brachial neuritis, and sciatica), the inflammatory and septic conditions of the skin and cellular tissues, and the digestive upsets labelled gastritis and gastro-enteritis."

Dr. McKinlay has suggested that the picture presented by these morbidity data could be utilized with much benefit for teaching purposes, and would at least help the embryo physician to visualize how different from his teaching experience will be his future work among the general population. In Scotland there are 2,000 insurance practitioners, and during the year to which this summary relates there were only 2,000 cases of terminated incapacity ascribed to tubercle, 774 to malignant disease, 3,666 to gastric and duodenal ulcer, and 7,022 to appendicitis. It is obvious, after making all necessary allowances, that many of the conditions so constantly appearing in hospital work may not be seen once in the course of a whole year by many doctors in general practice.

The bearing of these and other features of the morbidity statistics on the present controversy over the medical curriculum is obvious. I need not elaborate that point. At the moment I am more concerned with their bearing on the general direction of national health policy. Do they not tend to confirm—as the late Sir James Mackenzie used to maintain—that medical policy generally, as well as medical teaching, is directed too much to the end-results instead of to the beginnings of disease? Ample diagnostic and specialist facilities are provided for tuberculosis, heart disease, and cancer; but every practitioner can testify to the difficulty he experiences in securing the necessary help, either in the way of diagnostic aids or treatment facilities, for nervous and cardiac debility, "D.A.H." and tachycardia, gastritis, bronchitis, and rheumatism—the conditions which he meets daily in his practice. The medical student is taught to apply some of the latest advances of medicine—the electrocardiogram, biochemical tests, and so on. Where are the facilities for using this knowledge once he is engaged in practice?

This deficiency of diagnostic facilities is one of the patent defects of the national insurance medical service. It is not the only one or even, perhaps, the most important, as members of the British Medical Association are well aware. The insurance medical service has taken its place as an essential part of our social organization. It is essential in the sense that we cannot think of

* Read in opening a discussion in the Section of Public Health at the Annual Meeting of the British Medical Association, Dublin, 1933.

returning to the old conditions—including club practice—which the national insurance scheme superseded, and it is unlikely that the community would ever contemplate with equanimity abandoning a scheme which ensures to the industrial population at call the services of a qualified medical practitioner. This scheme has done an enormous amount of good work, and on the whole it has justified itself. But it would be extravagant to claim that it has realized the expectations of those who launched it. When the scheme was started it was believed that preventive work would gradually emerge to play an important part alongside treatment. Where is the preventive service now? Has the operation of the scheme raised the quality of the medical profession as a whole? Most insurance practitioners, conscious, as they have every right to be, of the good work they do under the scheme, are yet ready to admit that their work does not achieve its full results, that they are hampered by limitations in the scope and range of the service, and by the inadequacy of necessary facilities for diagnosis and treatment. They are ready to admit, too, that much of their labour is devoted to ills of which the means of prevention are well established but are not used.

You are all familiar, no doubt, with the proposals of the British Medical Association to repair the deficiencies of the insurance medical service. Broadly stated, the Association desires to make the service complete: (1) by providing a medical service not merely for the class at present insured, but also for their dependants and others in like circumstances; and (2) by putting behind that service organized facilities for diagnosis and treatment in supplement of the practitioner's own resources. But may I suggest—without entering into any discussion of the Association's proposals—that the deficiencies of the insurance medical service are not simply a matter of statutory provision or of organization. If you have agreed with me in my previous suggestions, you will agree now that these deficiencies reach back through organization and so on to the medical curriculum, and beyond the medical curriculum to the fundamental aim of national health policy.

The quality of the insurance medical service depends in the last resort on the quality of the insurance practitioner, and if his training is too much concerned with end-results how can he be expected to deal adequately with the mass of ailments, constituting the bulk of his daily work, which are not end-results, but which are the early stages of critical disease? To extend and supplement our existing organization without first having a clear idea of what the organization is aiming at, is to risk repeating old failures. If we clarified our aims we might find that changes more fundamental than additions to the present organization were required. We might find, for example, as I have suggested, that changes were necessary in the medical curriculum. We might find, also, that the reason the national health insurance service has done little as a preventive service is that medicine generally, as manifested in the training of medical students, in medical research, in our hospitals, and in our organized health services, is too much concerned with postponing death rather than with the promotion of healthy living.

If we turn to what we commonly call the public health services—sanitation, maternity and child welfare, school health services, infectious diseases, and so on—we encounter much the same mixture of satisfactions and dissatisfactions, and the same fundamental difficulties due to obscurity or confusion of aim. In these services prevention traditionally plays a large part. From our earliest attempts to control the spread of infection by measures of isolation, through the great development last century of pure water supplies, effective sewerage, and improved

sanitary environment, the history of public health has been dominated by the idea of prevention. It should be remembered that there has always been an interplay between public health and the relief of poverty, and the rise during this century of social legislation in the form of insurance acts, special measures for maternity and child welfare, for control of tuberculosis, and so on, properly understood, was a continuation and development of this historical connexion. It was inevitable with this development that the balance should shift somewhat from prevention to treatment, and I am not sure that the emphasis has not shifted a little too far.

You are all familiar with the criticisms, now current, of individual services. It is said of the school medical service, for example, that too much of the work is merely the cataloguing of defects; of the tuberculosis service that tuberculosis is an eminently preventable disease, and that if some part of the money and effort devoted at present to treatment in sanatoriums were added to the inadequate measures for prevention, much more could be achieved. The success of the measures we have in operation for the systematic supervision of dairy herds, for example, ought to encourage us to further preventive efforts. There is little doubt, too, that the whole sanatorium policy calls for review in the light of what we have learned since it was instituted in 1912. It is said of our measures for controlling infection that, although much has been achieved, the persistence of the toll which the commoner infections—diphtheria, scarlet fever, measles, and whooping-cough—levy on child life is a reproach in view of our knowledge of immunization, nutrition, and other protective and preventive measures. Of the child welfare service it is said that it tends to drift from its preventive purpose to the pleasant exercise of not too discriminate philanthropy. Our measures for safeguarding motherhood have to suffer the reproach of a stubbornly unyielding death rate of mothers in childbirth. One could go on with this catalogue. Many members present could no doubt go much further than I, and, like myself, they would not find any pleasure, or be indulging any carping spirit, in itemizing criticisms.

We are conscious of failure in certain directions, and we are all anxious to discover the causes. Something is certainly due to defects of organization. The British Medical Association stresses the defect due to the separation of the family practitioner from the public health services. It urges that participation of the family practitioner in the work of the local authorities on maternity and child welfare, school health, and public assistance would make for a better service. That proposal, again, I am not going to discuss beyond pointing to the obvious fact that development of the public health and public assistance services on a whole-time salaried basis—that is, broadly, on existing lines—would lead to a State medical service operating on a scale that might be regarded as formidable. But if we admit that our organization for the public health should be based on the family practitioner, are we not thrown back again on the training of the practitioner and on the fundamental aims of health policy? If prevention of disease and the promotion of healthy living are regarded as the fundamental aims of policy, some alteration will have to be made in the training of the family practitioner before the execution of policy can be handed over to him.

It is urged also by the British Medical Association that the absence of an organic link between the insurance medical service and the local health authorities is a patent defect of organization. It can be readily agreed that the British Medical Association is right. But to establish the liaison, for example, by transferring the work of insurance committees to town and county councils, cannot be done as a mere matter of organization. Behind this

question, as behind most of those I have touched on, and many others such as the relation between industrial medicine and the other services, lies the deeper question of the aims of national policy.

Nowhere in the Statute Book can I find any definition of aims that would give us a unifying line through our problems of organization. The truth is, as we all know, that the health services have grown up haphazard. From crude beginnings at control of infection they now embrace a range of scattered activities that include sanitation, infectious diseases services, with special branches for tuberculosis and venereal diseases, school medical service, maternity and child welfare, industrial medical inspection, national health insurance, and several others. Each development of a service or addition to the number of services was made in response to some special need or feeling of the times. The result is a congeries of disparate activities. The insurance practitioner works in his field, the child welfare officer in his, the school medical officer in his, and none is inspired by the feeling that he is linked to the others by a common purpose.

It is my own belief, and the belief of many others, that we cannot and should not expect to solve our problems of defective results or organization until we have arrived at a definition of policy that would unify, so far as is possible, the whole range of activities bearing on the health of the people. That is not a job solely or even primarily for medical men; but the medical man must make his contribution along with the biologist, sociologist, administrator, and the plain citizen. The need for a clear definition of policy has been reinforced by the

development of biological science in recent times. I do not mean by biology the crude propaganda that masquerades as eugenics, although the criticism that in some respects we are striving officiously to keep alive the weak at the expense of the strong, and thus doing injury to biological principles and to the race in the long run, has to be met. But biology, the science of life, and that branch of it, social biology, which deals with the numbers and quality of population, has much to say to us that could not be said when many of the present services and much of our existing organization were established. It will be strange if, in the light of modern biological knowledge, we do not find it necessary to adapt our services and organization so as more directly to promote healthy living. I do not imply that philanthropy should be shut out from the health or other social services; far from it. Philanthropy is a good old word, much abused, and the spirit it expresses, I hope, will live on in all our activities. What I imply in my plea for a biological assessment is a clearing of our minds so that we shall know when we are serving a biological and when a philanthropic purpose, and we shall regulate our activities accordingly.

The present is a time for stocktaking in medicine and in health policy. We have to discover our aims; we have to assess the worth of our present activities and modify them where necessary, so that they may most fittingly achieve the ends of defined policy. From such a stocktaking there will come, I believe, not merely improved organization, but also a new inspiration, which will carry us to achievements in public health greater than any we have known.

THE PRESENT POSITION OF SEROLOGY IN RELATION TO THE PATHOGENIC COCCI*

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During the past decade there has been a rapid expansion of our knowledge of the pathogenic properties of the cocci which cause disease in man—more especially of the Gram-positive group. The chief advance has come from the realization that staphylococci and streptococci are true toxin-producing organisms in the same sense that the diphtheria bacillus and tetanus bacillus are toxin producers. Although no true toxin has been discovered for the pneumococcus, improved methods of production of antibacterial serums have brought a new hope in the treatment of pneumonia. I propose to discuss the bearing which these and other advances have had upon the serology of the pathogenic cocci in relation to the recognition, prevention, and treatment of the human diseases for which they are responsible.

STAPHYLOCOCCUS

It has frequently happened in the history of mankind that a calamity has been turned to good account through the stimulus it has provided for more thorough investigation and research. While the existence of staphylococcal toxins had been fully realized and many of their properties had been described (Neisser and Wechsberg,¹ 1901; Kraus and Pribram,² 1906; Nicolle and Cesari,³ 1914; Parker,⁴ 1924), a disaster at Bundaberg, Queens-

land, in 1928, led to a more intensive study of staphylococcal toxin and antitoxin by Burnet^{5, 6, 7} (1929, 1930, and 1931). In this disaster twelve of twenty-one children, who had been inoculated with contaminated diphtheria toxin-antitoxin, died from acute staphylococcal septicaemia. Subsequent to the work of Burnet in Australia, the investigations of Weld and Gunther⁸ (1931) in America, Parish and Clark^{9, 10} (1931), Panton, Valentine, and Dix¹¹ (1931), and Panton and Valentine¹² (1932) in England, amongst others, served to make the properties of staphylococcal toxins and antitoxins more apparent.

Toxic Products

Toxins prepared by a special method kill rabbits, guinea-pigs, and mice rapidly, produce skin lesions in guinea-pigs and rabbits (necrotoxins or dermatotoxins), and have a destructive action on leucocytes (leucocidins) and erythrocytes (haemotoxins or haemolysins). An enterotoxin substance, which caused vomiting and diarrhoea in monkeys, has also been described by Woolpert and Dack¹³ (1933), who have made a special study of strains of staphylococcus from cases of food poisoning. There was a rough correlation between the amount of this food poison and the amounts of killing toxin, dermatotoxin, and haemolysin. Although Burnet formerly regarded the various toxic constituents as manifestations of a single toxin, the work of Weld and Gunther⁸ (1931) and Woolpert and Dack¹³ (1933) suggests plurality of toxins, and Glenny (unpublished) has found at least two haemolysins with specific antibodies. In human disease the various toxic properties, which have been demonstrated in animals and *in vitro*, undoubtedly play their part; the lethal effects were only too clearly demonstrated at Bundaberg. There is no skin test for susceptibility or immunity to staphylococcal infections in human subjects analogous to the Schick and Dick tests. The reactions

* Read in opening a discussion in the Section of Pathology at the Annual Meeting of the British Medical Association, Dublin, 1933.